WHAT IS CLAIMED IS:

1. A vehicle surroundings monitoring apparatus having a stereoscopic image detecting unit for detecting a stereoscopic image of solid objects around a self vehicle, an image processor for processing said image into a distance image and a plurality of micro-processors based on said distance image for recognizing said solid objects, comprising:

a wall surface detecting means for dividing positional data of said solid objects into groups and for detecting a wall surface formed along a boundary of a road based on said grouped positional data of said solid objects;

a wall surface model forming means for interconnecting a plurality of nodes and for forming a wall surface model based on said interconnected nodes to express an outline of said wall surface; and

a wall surface model correcting means for correcting said wall surface model based on said grouped positional data of said solid objects.

2. The apparatus according to claim 1, wherein

said wall surface model correcting means comprises a means for applying a pattern matching to said grouped positional data to search a position of said wall surface corresponding to said respective nodes and a means for correcting coordinates of said nodes based on said position of said wall surface.

3. The apparatus according to claim 2, wherein

said pattern matching uses a wall surface pattern

having such [redacted]ght coefficient as becomi[redacted]arge in the outside direction thereof.

4. The apparatus according to claim 2, wherein said wall surface model correcting means comprises a means for correcting said coordinates of said corresponding nodes in the direction where said positional data of said solid objects partially exist, when said pattern matching detects no wall surface.

5. The apparatus according to claim 1, wherein said wall surface model correcting means comprises a means for correcting said coordinates of said respective nodes in the direction of bringing them close to a straight line connecting one adjacent node and the other adjacent node after said wall surface model is corrected based on said grouped positional data of said solid objects.